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LET'S GET MOVING TO REDUCE FALLS: NURSES INCREASE PATIENT
MOBILIZATION AFTER BRIEF TRAINING

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Date of Submission: July 31, 2022

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ABSTRACT

BACKGROUND: Patients in hospitals are at a high risk for falls. There are many reasons for this, but one common reason is that patients in hospitals spend a lot of time being inactive. The less time patients spend being mobile, the less capable they are of maintaining mobility and the more likely they are to fall. During the first two years of the COVID-19 pandemic, Wildcat Hospital experience their fall rates increase two- to three-fold on inpatient units.

METHODS: This quality improvement project was guided by the Plan, Do, Study, Act (PDSA) framework to improve nurse knowledge of mobility and falls data, the importance of patient mobilization, and the implementation of this knowledge. A pre- and post-intervention survey (Appendix A) was used to determine the efficacy of the intervention.

INTERVENTIONS: A brief educational presentation informed nurses and nursing aids of national and unit-specific hospital falls data. The presentation also covered primary reasons why patients fall in hospitals and how increasing patient mobilization can benefit patients and reduce the occurrence of falls. Methods of incorporating mobility into existing practice were also offered.

RESULTS: Nursing staff scored dramatically better on most of the topics that were covered in the brief presentation. Scores on many of the topics that were not addressed remained generally unchanged or had limited improvement.

CONCLUSION: Nurses were able to learn most of the information that was presented in the 5-minute presentation while minimizing the impacts on nurses and patients. The acquisition of knowledge also indicates that nurses were more likely to utilize the information to encourage and assist patients to mobilize more frequently. Increasing mobilization has been shown to improve patient health and reduce falls. Future studies should assess the effectiveness of brief presentations on the number of times patients are mobilized and the impact on fall rates.

Keywords: mobility, mobilization, falls, medical-surgical unit, coronary care unit, progressive care unit, nurse training, nursing assistant training, brief intervention, 5-minute presentation

INTRODUCTION

Problem Description

Wildcat Hospital (WH) started to implement a program to prevent patient falls in 2019. Early in 2020, the project was set aside as the coronavirus disease 2019 (COVID-19) became a major priority. Now, with fewer patients and staff fighting COVID-19 and the virus becoming more endemic, the hospital started to re-focus on quality improvement initiatives. Falls were one of the largest targets for improvement, with many factors leading to falls, including: muscle weakness; medications causing somnolence, orthostatic hypotension, and affecting balance; trip hazards including: tubes, drains, power cords, poles holding intravenous (IV) medicine; and, slippery floors, among other factors.

Some units, like the medical-surgical unit, have a much greater occurrence of patient falls than other units due to the types of patients who are on the unit. This can be compared to other units, like the emergency department (ED) or intensive care unit (ICU) where patients have issues that are more acute in nature, and therefore may be restricted to bed more often. The med-surg unit has patients who are more medically stable, having been discharged from the ED or ICU, or are recovering from surgery. These patients may be connected to IV's or have Foley catheters, but many of them are physically able to stand and walk at least a few steps, even if they need to take their time and use a walker with someone present to assist them.

The medical-surgical unit has a benchmark of 2.5 falls per 1000 patient days. The ED and ICU have benchmarks of 0.2 and 0.8 falls per 1000 patient days, respectively. Despite this larger benchmark, the med-surg unit failed to meet this goal in 2019, averaging 3.7 falls/1000 patient days. In 2020, the rate was worse, at 5.2 falls/1000 patient days. And in 2021, the med-surg unit

had 37 falls or approximately 7.7 falls/1000 patient days. These numbers showed that the trend was going in the wrong direction. It needed to be reversed.

Reducing falls can be accomplished in many ways. One way is by limiting the walking of patients, either by not encouraging or actively discouraging them from getting up without a nurse being present. If a patient does not stand, it is difficult for them to fall, thereby decreasing fall rates, in theory. However, most patients want to get up to go to the bathroom and they need to show that they can get out of bed and perform activities of daily living prior to being released to home. If they are too weak to perform these tasks, then they may have to go to a nursing home. Another method to reduce falls is to encourage patients to walk and exercise. This mobilization helps patients to maintain and increase strength, balance, and coordination and to practice their activities of daily living (ADL) so that they can perform them successfully prior to discharge.

The main reasons why patients on the unit walk are to go to the bathroom or to get up and sit in the chair. These often involve a walk of five to 20 feet each way. For a patient who is recovering from surgery, or who is older or obese, this can be a strenuous exercise due to the distance and the strength that it takes to walk that far. Additionally, these populations may not have been starting from a high level of strength prior to their disease or surgical procedure.

In addition to walking to the bathroom or the chair, other instances of patient mobility include walking around the hallways, standing to brush their teeth and wash up, sitting up on the side of the bed and dangling their legs, or even performing in-bed exercises, depending on their level of mobility. While walking is the best form of mobility, it is not necessary for all patients to achieve this in order to be discharged. The primary goal of mobilization is to minimize the loss of strength.

Available Knowledge

Using the CINAHL Complete database from the University of New Hampshire Library, the search terms “Mobilization” AND “fall prevention OR preventing fall OR prevent fall OR reduce fall” were used to obtain 31 articles. Another search in CINAHL Complete resulted in 38 articles when using the search terms “Falls prevention evidence-based practice.” In addition to these articles, a PowerPoint training on mobilization to improve patient health provided an additional six articles, and citation searching resulted in an additional 23 articles. This resulted in a total of 98 articles. Of these articles, 47 were excluded because they did not focus on mobilization or fall prevention. Another 13 were excluded due to a focus on long-term interventions, while pre-surgical mobility (n=5) and muscle and cell functioning (n=2) were also discarded. Assessments of fall-risk were removed (n=3). Finally, 10 articles were removed because there was no full text, or the text was unavailable in the time. The remaining 18 articles were utilized to better understand mobilization as a method of reducing falls or to create a plan for education and implementation of nursing-based mobilization for patients in the hospital.

Patients who are hospitalized spend most of their time in bed. Remaining sedentary can lead to detrimental effects on the body, with patients who are rarely mobile in hospitals being much more likely to have functional decline and increased risk of falls (Brown et al., 2009). Patients may also believe that they should remain in bed when they are in the hospital (Brown et al., 2007). It is the nurse's job to encourage, and, if necessary, assist the patient to mobilize to the best of their ability. This exercise can help the patient maintain their level of fitness. Creating a culture that encourages patient exercise can be tricky with so many competing demands, but mobilization of patients can be incorporated into a nurse's schedule with training and practice.

In a research study on a progressive mobilization program, Messer et al., (2015) educated nurses about mobility, and looked at the effects of immobility on patients. The study took place on a medical surgical ICU, where the mean patient age was 64 years old and the average length of stay was 2.5 days, though it could have taken place in almost any unit in any hospital where patients spend a lot of time in their bed. Researchers tested nurses before and after an educational intervention to determine what knowledge the nurses had gained regarding mobilization and what they felt were the benefits of the mobilization program. The study found that after completing the educational program, the average score of mobilization knowledge for participating nurses went from 61% to 86% (Messer et al., 2015). In addition to knowing more about mobilization, the nurses also mobilized patients significantly more (Messer et al., 2015). Prior to the education, several perceived barriers to mobility were identified. These barriers included lack of time, competing priorities, fear of injury, lack of knowledge about the patient's capabilities, sedating medication, and the culture of the unit, among others (Messer et al., 2015). The results of the intervention were an increase in the percent of patients who got up to a chair or who were able to sit up and dangle their feet on the side of the bed, if they were unable to get up to a chair or ambulate.

There was no test of the tool for reliability or validity and the sample size was relatively small (n=41). The intervention also reviewed how nurses should document mobility, so it is possible that mobility which had been occurring prior to the test was not getting properly documented until after the education (Messer et al., 2015). Despite these drawbacks, the overall outcome showed that mobility education is important to help nurses understand the risks of immobility, the benefits of mobilization, and how to eliminate the roadblocks that are limiting their ability to mobilize patients (Messer et al., 2015).

Brown et al. (2016) conducted a study evaluating the use of space and comparing it to activity levels of the patients before and after they were hospitalized for a non-surgical reason. The study looked at patients, who were 65 years or older (average age 73.9) and were mobile in their community 2 weeks prior to entering the hospital. Half of these patients were mobilized intentionally, and the other half received the usual care, including any mobilization that they normally would. The patients who were part of the mobilization program had a similar level of activity one month after leaving the hospital as they did upon admission, whereas the other patients were significantly more limited in their abilities (Brown et al., 2016). In some patients, these lower rates of mobility persisted at least two years after the hospital stay. One limitation of the study was that 97 of the 100 participants were male because it took place at a Veterans Health Administration (VA) hospital.

To determine how much time patients spent in bed Brown et al. (2009) used accelerometers that were attached to the legs of 45 men. These men spent an average of 5.1 days in the hospital and had a mean age of 74.2 (all were over 65 years old). Of these patients, 35 were able and willing to walk at least 5 feet independently. The aggregated data from the accelerometers showed that the patients spent an average of 83.3% of the day laying in bed, 12.9% of the day sitting, and 3.8% of the day standing (Brown et al., 2009). Additionally, 15 patients spent more than 90% of their time lying in bed (Brown et al., 2009). The authors stressed the detrimental effects of low mobility on the health of the patient, including increased risk of pressure ulcers, falls, and functional decline. Unfortunately, this study did not assess any women; nor does it mention whether any patients received a pressure wound, had a fall, experienced functional decline or any other injuries caused by a decrease in mobility.

When patients are hospitalized, they may experience immobility for several reasons. Sometimes providers order bedrest and other times patients choose to spend most of their time in bed. Brown et al. (2004) looked at the orders that patients were given regarding mobility, how mobile the patients were, and how the level of mobility affected the patient's outcome. The authors interviewed nurses about the patient's observed mobility, instead of their physical performance. Activities of daily living (ADLs), and mobility (as determined by the number of times the patient was active that day, maximum of 5) were observed over the course of the patient's stay. The level of mobility was also assessed on a scale of 0-12, with 2 being an assisted move from the bed to a chair and a 12 being a fully independent ambulation two or more times a day (Brown et al., 2004). The outcomes were assessed by the patient's ability to perform ADLs, whether the patient was newly institutionalized, or whether they died. The study did not filter out patients who died during the study (n=33, in hospital; Brown et al., 2004). Patients who went to an institution and then died (n=31) were not included in the "newly institutionalized" outcome but were instead pooled into a "death or new institutionalization" classification (Brown et al., 2004). Patients who were categorized as being low mobility were found to be 5.6 times as likely to experience a functional decline as those with high mobility during hospitalization (Brown et al., 2004). Patients who were intermediately mobile in the hospital were 2.5 more likely to experience functional decline (Brown et al., 2004). These patterns were similar for new institutionalization (6.0 and 2.9 for low and intermediate, respectively) and for death or new institutionalization (7.2 and 3.3, respectively), however, the low mobility group was 34.3 times as likely to die as the high mobility group and the intermediate mobility group was 10.1 times as likely to die as the high mobility group (Brown et al., 2004). These authors indicate that the lower the observed mobility of the patient, the worse the outcome can be expected to be.

There are a few reasons why patients have limited mobility during their hospitalizations. One study of 29 patients 75 years old and older found that the most frequently reported reasons that they were not more mobile in the hospital was a result of a symptom of weakness, pain, or fatigue, which occurred 97% of the time (Brown et al., 2007). The presence of lines and drains was cited as a reason for reduced mobilization 85% of the time, and fear of falling was cited as a reason 79% of the time (Brown et al., 2007). In addition to the patient's concerns, the study also assessed nurses and physician's opinions regarding concerns for falls. The study found that the greatest combined fear of all three groups was fear of the patient falling. This was the highest concern for patients and physicians (Brown et al., 2007). When nurses list reasons for limited patient mobility, they cite the presence of IV's and catheters as the first and second concerns, respectively (Brown et al., 2007). In third place was the fear of patient falls, which was tied with lack of staff and lack of assistance devices (Brown et al., 2007). Pain and weakness were the other reasons patients limited mobility while physicians attributed IVs and lack of patient motivation as the primary reasons (Brown et al., 2007). Aside from these reasons, a lack of staff, a lack of ambulatory devices, and issues with the hospital environment were also noted as barriers to mobilization.

Another way of reviewing mobility is to assess the number of times a patient ambulated, how far they traveled, and whether the ambulation was documented. In their study focusing on supporting ambulation, King et al. (2016) found that both the total distance travelled in a week and the number of times a patient was ambulated over the course of a week increased significantly after nurses participated in an intervention that focused on removing five barriers to getting patients to ambulate (King et al., 2016). The program used psychomotor skills to determine whether it was safe for a patient to ambulate and how to assist them, if necessary, to

address a primary concern (King et al., 2016). Another skill was the use of communication tools to share information between staff to know how well a patient ambulates (King et al., 2016). The third part of the intervention looked at pathways that provided visual stimulation as well as distance markers to be able to determine distances traveled (King et al., 2016). The fourth component assessed resources for ambulation, including equipment and personnel, to assist patients with ambulation (King et al., 2016). The final part of the intervention attempted to create a culture of ambulation, where nurses own and sustain it (King et al., 2016). By utilizing this intervention and removing these five barriers, nurses significantly increased patient ambulation on their unit (King et al., 2016).

Patient mobilization has a significant impact on overall patient health. In order to reduce patient falls and improve outcomes, mobilization is an extremely important factor in the care that is provided. Nurses can play an instrumental role in motivating patients to get more exercise while in the hospital, but sometimes they need some guidance in ways to incorporate mobility into practice. Training sessions and creating a culture around mobilization can provide information on the benefits and suggestions for how to integrate exercise into the patient's care plan.

Patient falls are one of the greatest concerns of doctors, nurses, and patients while they are in the hospital (Brown et al., 2007). Despite this, the mobilization of hospitalized patients is an important factor in the outcome of their stay (Brown et al, 2004). Many patients spend most of their time in bed (King et al., 2016). This can have detrimental effects on their health, especially as it pertains to falls, pressure ulcers, and functional decline (Brown et al., 2009). Lower rates of mobility tend to lead to poorer outcomes (Brown et al., 2004). However, mobility education can help nurses realize the benefits of patient mobilization and can help them find

ways to increase their assistance with patient mobility (Messner et al., 2015). This would help create a culture where nurses own patient ambulation, and work to sustain higher levels of mobilization (King et al., 2016).

Rationale

As COVID-19 entered the endemic phase, the hospital started to return its focus to some of the initiatives that had been started prior to the pandemic. Patients fall rates are a Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) tracked metric. As such, they are visible to the public and can affect whether patients choose to go to one hospital over another. Additionally, they can affect hospital reimbursement rates. Fall rates of 1.3 to 8.9 per 1000 bed-days have been reported in acute care hospitals (Oliver et al., 2010). The problem with falls is that they can lead to more injuries and longer hospital stays (Miake-Lye et al., 2013). Sherrington and colleagues (2019) found that fall rates decreased by 23% in elderly populations who participated in some form of exercise. With a benchmark fall rate of 2.5 per 1000 patient days, and the average fall rate on the med-surge unit at Wildcat Hospital increasing over the last 3 years, a new emphasis needs to be placed on methods of decreasing falls. While limiting out of bed mobility can decrease fall rates, it can lead to a number of other issues, including an increase in falls when the patient eventually starts trying to walk again. Meanwhile, encouraging mobility helps maintain patient strength, decrease instances of delirium, decrease the risk of venous thromboembolism, decrease the risk of pressure injuries, increase lung capacity, shorten hospitalizations, and reduce new nursing facility discharges. Taking all these benefits into consideration, this study looked at mobility knowledge and occurrences among nurses who volunteered to participate.

Global Aim

The global aim of this quality improvement project was to increase instances of mobility on the medical-surgical unit.

Specific Aims

The specific aim of this quality improvement project was to increase nurse knowledge about patient mobility as observed by an increase in survey scores, and to increase instances of patient mobility by June 30, 2022.

METHODS**Context**

Recently, the med-surg unit was combined with the coronary care unit (CCU) and progressive care unit (PCU) because of staffing issues. The result has meant that the units are still able to be fully staffed and function effectively. When the units were combined, the med-surg patients were moved to the CCU/PCU because the telemetry system would have been difficult to set up on the med-surg unit and because the rooms were better equipped to handle patients with COVID-19. However, the move has been a big shift and it has also had effects on other units like the ED because patients have not been able to be transferred up to the med-surg unit as readily, due to a lack of beds.

The patient population census on the med-surg/CCU/PCU floor varied because of the combined status that it was in, however it was on the order of 18 patients at a time and 22 patients per day, with several of those being discharged and new ones admitted. The nurses on the floor cared for about 50 patients per week, 200 patients per month, and nearly all of these patients were discharged each month. These numbers varied quite a bit as patient numbers on the

unit were affected by the number of patients in the CCU/PCU. At that point, the hospital was trying to keep med-surg patients out of the women's and children's unit, so the ED was often holding up to 8 med-surg patients until a room opens or the patient can be discharged.

Additionally, the hospital turned some of the rooms into doubles, which changed the patient numbers, but these were varying by the day depending on patient's conditions and whether they could be paired with another patient.

The creation of double rooms caused issues because the rooms were not built with this in mind. Since the rooms were built as single rooms, the bathroom doors could not be fully opened without moving one of the beds, and a wheelchair could not access the second bed without moving the bed closest to the door. This resulted in less privacy, more effort for patients, and more work for the staff. It also increased the risk of falls. The change resulted in a number of complaints by staff and patients about the new setup.

Intervention

The purpose of this quality improvement (QI) project was to dovetail in with the larger initiative of the falls and delirium committee to increase mobility of the inpatient population in order to reduce incidences of falls and delirium. The chosen intervention provided an educational program to nurses and LNAs to remind them of the benefits of patient mobilization and to give them ideas on how to provide more mobility to patients while minimizing the demands to their schedule.

After obtaining baseline data regarding nurse and LNA knowledge, practices, and attitudes of the benefits of patient mobilization using a survey, the project leader gave the nurses a 15-minute educational program regarding the benefits of patient mobilization. This program also provided several quick and easy ways to incorporate mobilization into their current patient

care. The purpose of this training was to limit the creation of new or discrete tasks, and instead to cluster the care while they are already with a patient. In addition to the educational program, quick reference cards with mobilization ideas for each level of patient mobility was provided so that nurses and LNAs have a reminder of exercises they can incorporate into each patient's care.

Study of the Intervention

A questionnaire regarding nurse knowledge of the benefits of early mobilization of patients were approved by the Quality Improvement Committee on Falls and Delirium (CFD). Once the questionnaire was approved, the investigator gave it to the nurses and nursing assistants on the medical surgical and coronary care unit to obtain a baseline of mobility knowledge. Once this baseline was obtained and assessed, a brief educational program was given to the nurses which stressed why mobilization is important, how to encourage mobilization, and it gave some easy ways to incorporate mobilization into their daily routine without adding much time to their care. The teaching also included what counted as mobilization.

To compare the effectiveness of the mobilization program for nurses and LNAs, a post-assessment was conducted after 1 month, utilizing the same questionnaire, to see what they have learned about mobilization and the importance of mobilization to the health of their patients.

Measures

The pre- and post-intervention assessments were quantified, either by assessing correct or incorrect for true-false and multiple-choice-single-answer questions, or by counting numbers of correct answers for multiple-choice-multiple-answer or fill-in-the blank questions. These questions were assessed with the breadth of knowledge of nurses and LNAs in a discrete manner and allowed for comparison between the pre- and post-intervention.

Analysis

The scores of the pre- and post-assessments were compared to determine nurse and LNA understanding of the rationale and benefits of patient mobilization, while the interview was provided information on the long-term feasibility of the intervention. The answers to the questionnaire were compared with a paired t-test, in addition to calculating the frequency and percentage for each answer. The number of mobility moments for each participant were summed each week and the mean, standard deviation, and ranges were calculated. Additionally, the values were graphed using a simple linear regression. The interviews were assessed using descriptive analysis. All the information regarding improvement were passed along to the falls and delirium committee for future improvement cycles.

Ethical considerations

No patients were questioned, nor were their medical records assessed for this project. The quality improvement study only assessed the knowledge, practices, and attitudes of nurses and nursing aids who volunteer to participate in the study.

This proposal was reviewed by the Quality Review Committee of the UNH Department of Nursing to verify that it meets the standards of a quality improvement project and was deemed to be exempt from institutional review board (IRB) review. Additionally, the Quality Improvement Committee on Falls and Delirium approved the project as well as the materials that were created and used for this project.

RESULTS

Results

The preliminary survey had to be pushed back 3 weeks later than was initially planned. Therefore, the timeline has been updated as seen in Table 1. Due to the constraints of the summer timeline, the duration of intervention period had to be shortened, bringing the post-

educational survey closer to the educational session. This may have skewed the data, because there was less time for the staff to forget some of the teachings; however, a truer test of the learning would be to repeat the survey after 3 months, 6 months, and/or a year. That would provide a more accurate picture of what nursing staff remembered and how they put their knowledge into practice.

| Action | Timeline | Updated Timeline |
|---|-----------------|-------------------------|
| Pre-educational survey | June 1-7 | June 20-26 |
| Brief educational presentation, begin logging instances of mobility | June 8-14 | ----- |
| Brief educational presentation | ----- | June 27-July 3 |
| Post-educational survey | June 24-30 | July 4-11 |

Table 1. Updated data collection and intervention timeline.

One benefit seen from the preliminary survey getting pushed back was that by the time the project started, the medical-surgical unit at Wildcat Hospital had reopened and was starting to be re-populated. This allowed for more nurses to be surveyed than would have been possible with the units combined on the CCU/PCU floor. It also provided an opportunity to survey nurses who were new to the hospital, or new to nursing altogether.

Unfortunately, the software that was going to be used to assess the number of instances of mobility that each nurse was performing could not be created within the timeframe necessary to apply it to this project. This software and the direct collection of instances of mobility, however, that was never the primary focus of this project. It was an added benefit that was going to be easy to accomplish because the Falls and Delirium Committee was going to be conducting the data collection. It was going to be used to help verify some of the answers that nurses provided. Additionally, this software was going to be used to determine who got gift cards that the

committee was going to give out. Because the software could not be used, no gift cards were given out, so there were no concerns about ethics, conflicts of interest, or compensation for participation.

The availability of staff, especially when they were scheduled, complicated the intervention slightly. If a participant were on vacation during one of the weeks, they were not able to take part in the project because they either did not receive the presentation and, therefore, could not implement the intervention, or they were not assessed before or after, preventing an analysis of whether and how the intervention changed their knowledge and behavior. This does not mean that their answers to questions were not important for the overall assessment of the status of nursing staff regarding their understanding and behavior mobility, but the individual comparisons were not able to be completed.

Nursing staff was not required to answer any question in the survey except for whether they voluntarily participated in the survey or not. Additionally, some questions were not in the scope of practice of LNA's, so they did not answer these questions. This meant that each question might have a different number of respondents. Therefore, the general findings are presented as percentages or as figures with all the responses, so that the data can be compared appropriately. If data was missing from either a pre- or a post-educational survey, that question was not compared for that individual.

Forty pre-intervention surveys were handed out and 24 (60%) were returned. Seventeen (70.8%) of the returned surveys were submitted by registered nurses (RNs), while 7 (30.2%) were submitted by licensed nursing assistants (LNAs), however LNAs were generally scheduled with 2:1 or 3:1 RN:LNA ratio, so these results were in-line with the number of surveys distributed to each group. Of the respondents, 17 had been at their current level of licensure for

five years or less, with the mean, median, and mode for number of years at their current licensure being two to five years. Seven of the 17 RNs had worked as an LNA or LPN previously. Most staff had not worked at any prior level of licensure (14; 58.3%) this included both RNs and LNAs. Of those who had worked at another level (all were RNs when responding to the survey), two (20%) had worked as licensed practical nurses (LPN), and the remaining eight (80%) had worked as LNAs. Additionally, half of the RNs who had worked under a different license had done so for fewer than 6 years.

Patient falls statistics are important to understanding why falls happen. Half (50%) of the respondents thought that Wildcat Hospital had a similar fall rate to that of the national average. Another 40.9% thought that the hospital had fewer than the national average. Only 9.1% thought that the figure was more than average. The preliminary survey showed that 47.6% of the respondents thought that 5% of patients fall during their hospitalization. Another 19.1% thought that the figure was 8% and the same percentage thought it was 3%. Of the patients who fall, many are not seriously injured, but some are. According to 30.4% of nurses, injury resulted from a fall 20% of the time. The next most common response was 5% of falls result in injury (26.1% of nurses), followed by injuries occurring 30% of the time (21.7% of nurses). Almost every nurse (91.7%) said that the 65 and older age range was the most prone to falls.

Staff estimated that patients spent 51-60% or 60-70% of their time in their bed while they were in the hospital, with 30.4% guessing each category (Fig. 1a). No staff selected 91-100% for the percent of the day spent in bed and three (13.0%) estimated that on average patients spent less than 12 hours a day in bed. Prior to the education, 45.5% of respondents said that 0-5% of their patients were prescribed bedrest, while 27.3% and 18.2% thought that bedrest was prescribed 6-10 percent and 16-20 percent of the time, respectively (Fig 1b). Broken bones

(59.1%) and an unsteady walk or lack of strength (45.5%) were the two most frequent reasons why staff thought patients were prescribed bedrest (Fig. 1c).

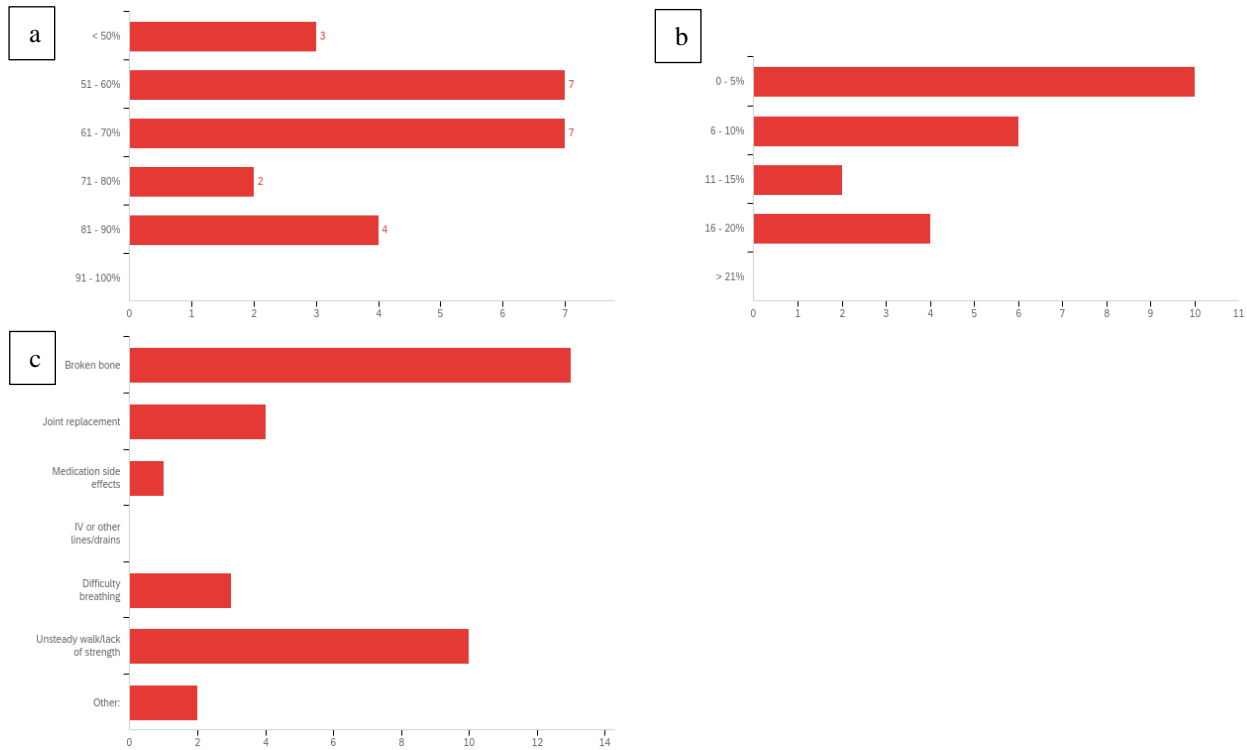


Figure 1. Breakdown of patient bedrest. *1a*. Staff estimated percent of 24-hr day that patients spend in bed. *1b*. Staff estimated number of patients prescribed bedrest. *1c*. The most common reasons staff believe that bedrest is prescribed.

Without regular mobilization, a patient's ability to continue being mobile declines. Unit staff were divided how long this would take, with 34.4% thinking it would set in over 24 hours, 30.4% in 12 hours and 21.7% in 2 days. Similarly, orthostatic intolerance sets in when patients are sedentary for too long and 8 (34.8%) staff thought that this would take 24 hours to start setting in; while 26.1% thought it would take 8 hours and the same percentage thought it would take 12 hours.

Staff estimated that they assist or encourage each patient to mobilize three or four times a shift (37.5% and 29.2%, respectively). When asked to identify each of the instances of mobility from the list, most, though not all, nurses thought that walking to the restroom and walking in the

hallway counted as instances of mobility (91.7% and 87.5%, respectively; Fig. 2). More than half of nurses also thought that a patient performing a stand and pivot to a chair or sitting up on the side of the bed with their legs dangling also counted as mobility (62.5% each). Performing leg stretches in bed was also seen by 54.2% of nurses to be an instance of mobility. Only 25% thought that sitting in a chair counted as mobility.

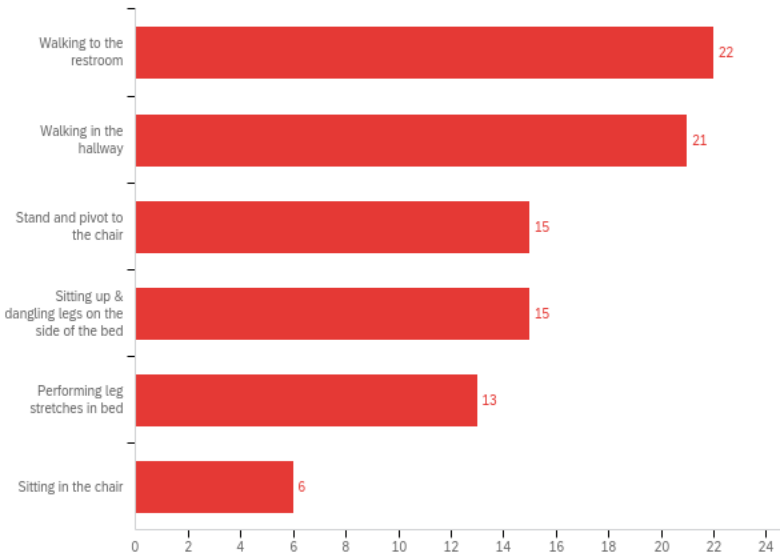


Figure 2. Activities the nursing staff recognized as counting as instances of mobility.

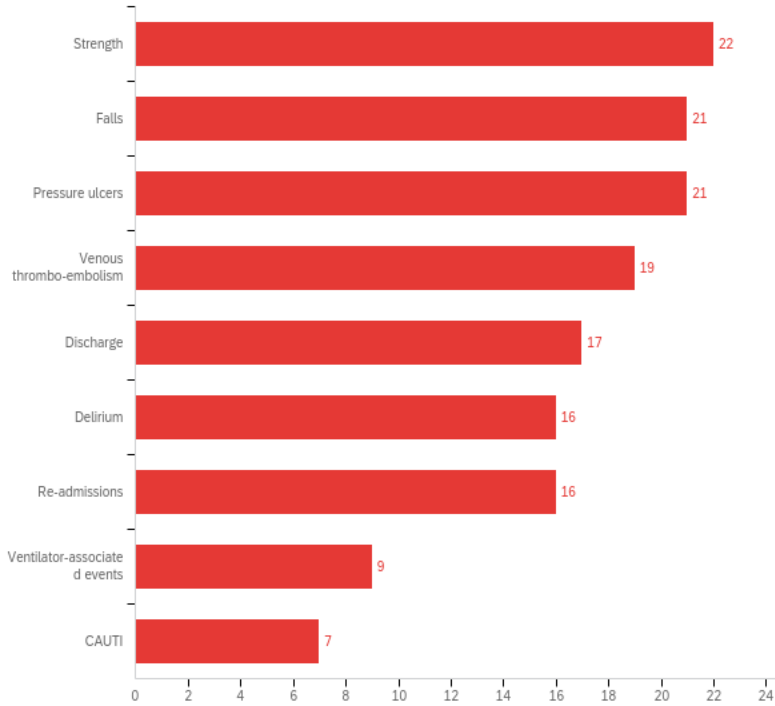
In order to get out of bed, 29.2% of hospital staff estimated that patients needed assistance 71-80% of the time. Additionally, 20.8% of staff believed that percentage of patients was 61-70% and the same number thought it was 81-90% of patients. Most of these patients only needed a 1-person assist, according to 79.2% of respondents. This level of assistance was generally determined by the report received from the previous shift (16/24, 66.7%), patient assessments by a RN (20/24, 83.3%), and/or patient assessments by a physical therapist (19/24, 79.2%).

To assess patient fall risk, registered nurses and PTs use the Morse Fall Scale (MFS). If the patient has an IV and it is saline locked, 83.3% of RNs said that they record “yes” to

“IV/heparin locked” on the Morse Fall Scale (MFS). The same percentage said that they choose “yes” when the IV is hooked up to the pump. When a patient has no IV access, 88.9% of nurses said that they choose “no” for the “IV/heparin locked” question. One third of nurses thought that the “IV/heparin locked” question added 5 points to the total on the MFS, while 26.7% thought that it added 20 points. The majority of nurses (37.5%) thought that a MFS score of 50 classified a patient as a high risk for falls. A score of 30 and 40 were each chosen by 25% of nurses. At Wildcat hospital, 60.9% of nurses said that 91-100% of patients had IV access and another 26.1% said that the range was 81-90% of patients, indicating that nearly all patients start with a MFS of 20 points before any other conditions are assessed. This leads to many patients being classified as high risk for falls and potentially needing additional help to mobilize them.

When nurses were asked which factors were negatively affected by lack of mobility, over 90% identified patient strength, risk for falls, and risk for pressure ulcers (Fig. 3). Risk for venous thromboembolism was thought to be increased with immobility by 82.6% of nurses, while around 70% identified discharge, delirium, and readmissions as impacted. Only 39.1% thought that ventilator-associated events were affected by mobility, and only 30.4% thought that mobility had an impact on CAUTI's.

Nurses thought that the greatest barrier to mobilization was time and competing demands (50%), while 33.3% attributed a lack of enough assistance personnel as the greatest barrier (Fig. 4). Patient strength was identified as the main reason patients were not more mobile by 12.5% of nurses, and a lack of assistive devices prevented mobilizing patients for 4.2% of nurses.



| Answer | % | Count |
|------------------------------|-------------|-----------|
| Strength | 95.65% | 22 |
| Falls | 91.30% | 21 |
| Pressure ulcers | 91.30% | 21 |
| Venous thrombo-embolism | 82.61% | 19 |
| Discharge | 73.91% | 17 |
| Delirium | 69.57% | 16 |
| Re-admissions | 69.57% | 16 |
| Ventilator-associated events | 39.13% | 9 |
| CAUTI | 30.43% | 7 |
| Total | 100% | 23 |

Figure 3. Areas upon which mobilization, or lack thereof, affects patients

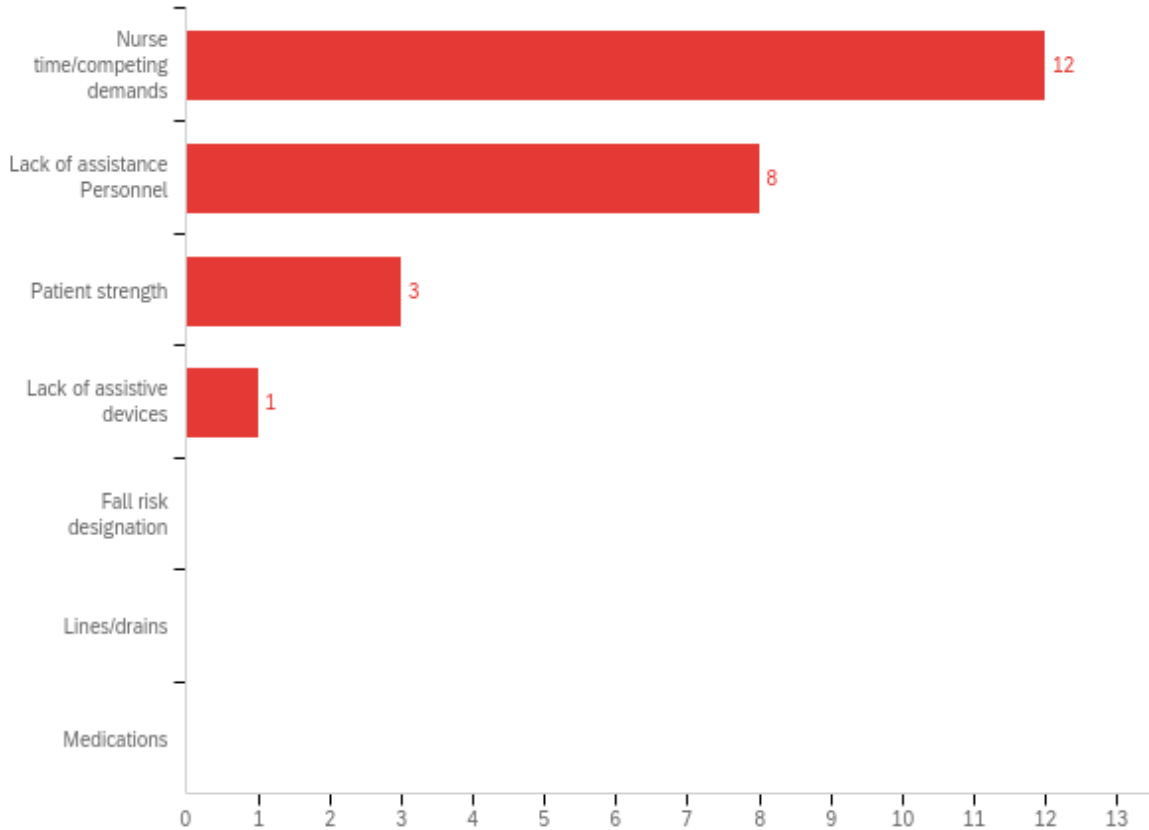


Figure 4. Nurse opinions of the greatest barriers to mobilization of patients.

Almost all nurses (91.7%) thought that chair alarms help prevent falls, while the majority (60.9%) said that they contribute to alarm fatigue. Hourly rounding participation was also 91.7%, however only 79.2% of nurses thought that it was helpful in preventing falls. Most nurses thought that the factors that have the biggest impact on falls were bed and chair alarms (45%), followed by staffing levels (30%), call bell answering and patient checking (10%), and strength and early mobility (10%). Nurses thought that the factors that had the greatest impact on patient mobilization was staff levels (61.1%) followed by being seen by PT (16.7%), patient strength (11.1%) and patient encouragement (11.1%). Finally, nurses thought that the factors that had the greatest impact on patient outcomes were patient education (4), patient rounding and monitoring (3), talking, listening, and spending time with patients (3), adequate staffing (2), Pain relief (2), early ambulation (1), and completing nursing assessment (1).

After the intervention, 23 of 32 surveys were returned, or 71.9%. The number of participants included one more nurse and two fewer LNAs, however the answers to the background questions remain primarily the same, indicating that most of the participants were probably the same people. This was consistent with the small size of the staff on the two units. During the second survey period, staff were being cut from shifts if patient numbers did not warrant them. This generally extended first to the LNAs and then to the RNs.

Many of these surveys showed a dramatic increase in the number of answers that were the same as or closer to the information provided in the educational presentation. Prior to the presentation, 45.45% of nurses accurately stated that 0-5% of patients are prescribed bedrest. This increased to 87% after the training (Fig. 5a). Even more dramatic were the differences in the accuracy for the speed of decline of mobility and orthostatic tolerance (increased 52.26% and 52%, respectively; Figs. 5c and 5d, respectively) and the number of patient falls that result in serious injury (increased 55.26%). The greatest increase in accurate answers was in how the unit's fall average compared to the national average. For this question, the answer "more than" increased from 9% to 86% (Fig. 6a). Answers for what count as instances of mobility also increased, with the largest bumps for the answers to chair sitting, stand and pivot to chair, sitting on the side of the bed, and leg stretches, which all increased by at least 30% (Fig. 7a). The conditions that are affected by a lack of mobilization increased as well, with all going up somewhat, but some increased substantially, including CAUTI (57%), ventilator-associated events (44%), and delirium (17.5%; Fig. 7b).

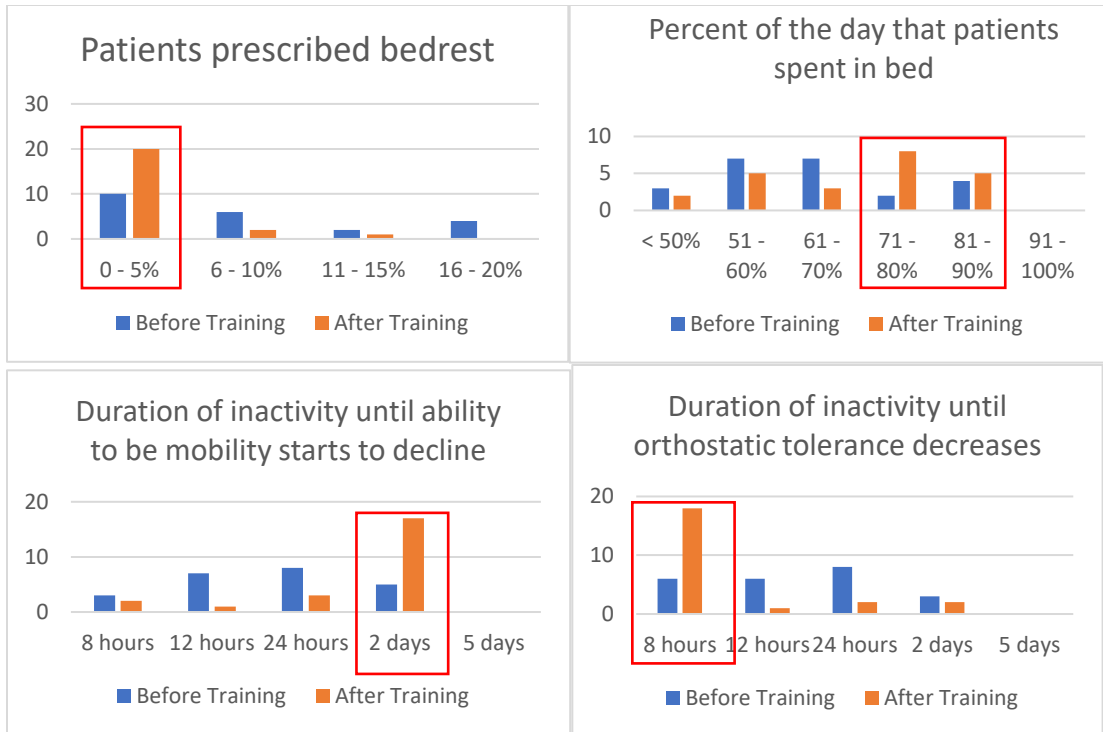


Figure 5. These charts show the dramatic differences between the answers nursing staff gave before and after the interventional presentation. 5a. The 0-5% range for patients prescribed bedrest is much more accurate than the other ranges due to the rare conditions for which any significant amount of bedrest is required. 5b. While the estimated percent of the day that patients spend in bed increased, this is likely a more accurate representation of the figure based on the literature. 5c. The amount of time it takes for an inactive patient to have their ability to remain mobile start to decline was correctly remembered by the majority of nurses. 5d. The amount of time it takes for the orthostatic tolerance of an inactive patient to start to decline is much less than most nurses thought.

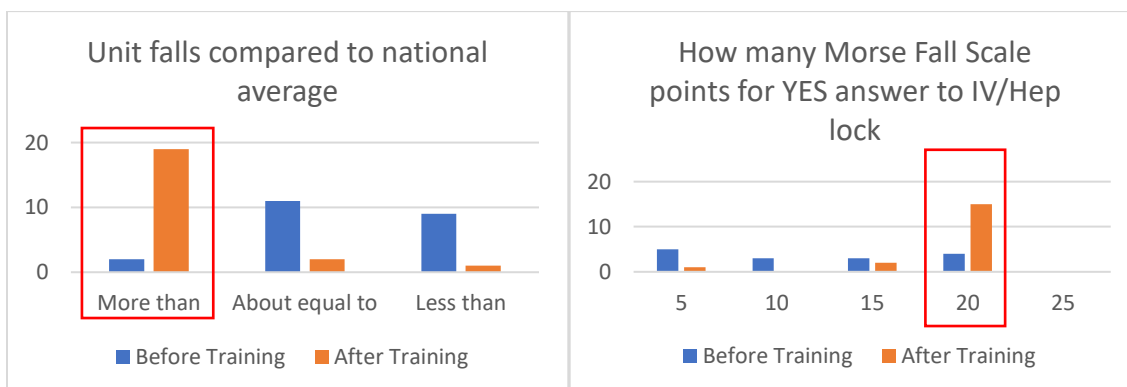


Figure 6. 6a. Both the medical surgical unit and the coronary care unit have average falls rates that are significantly higher than the national average. Many nurses learned this from the presentation 6b. Nurses on both units regularly answer the questions for the Morse Fall Scale, but the points allotted for each answer are calculated behind the scenes. Very few nurses knew how many points a “Yes” answer to the IV/hep lock question was worth.

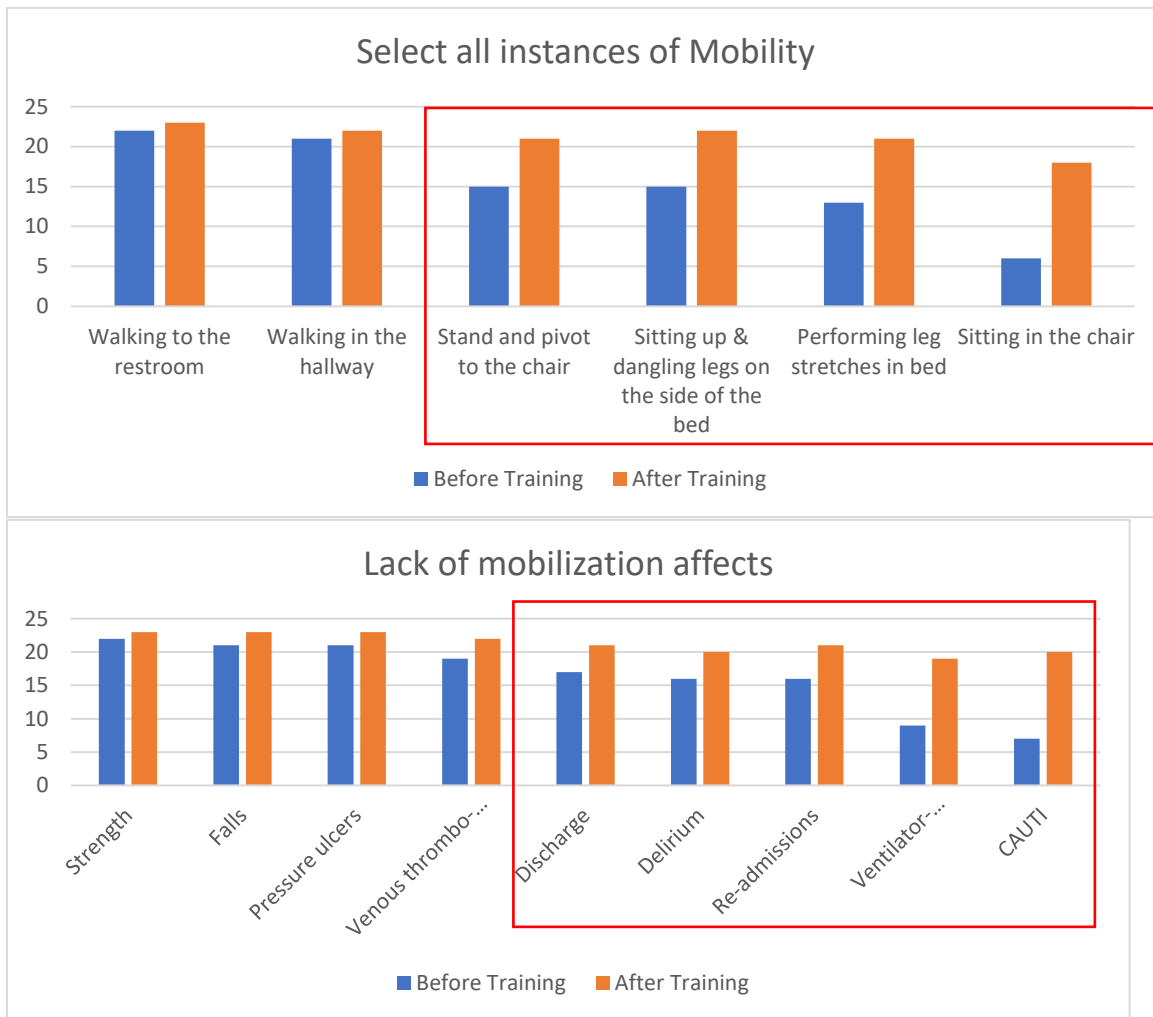


Figure 7. Mobility plays a major role in healing and a patient’s ability to leave the hospital. 7a. Patients who are hospitalized may vary in their abilities, but at each level, there are ways to mobilize them and prepare them to advance to the next level. All of these count as instances of mobility, as long as patients are actively engaging their muscles to perform the exercise and not simply laying back or allowing themselves to be manipulated by a caregiver. 7b. Mobilization of patients helps ward off all these harmful conditions. Nurses recognized many more of these following the presentation which addressed this.

The nurse’s perception of how much time patients spend in bed increased to align with 6 more respondents (26%) marking percentages above 70% than had during the preliminary survey. Additionally, a slight improvement in the age at which most hospital falls occur (>65 years of age) increased from 92% to 100%. Another similar increase occurred for the questions regarding IV/hep lock answers on the Morse Fall Scale, with an increase of two “Yes” answers

when the IVs are saline locked, and when the patient is hooked up to a pump. These small increases can be contrasted with the greater increases in the number of points that are assigned to the Morse Fall Scale for a “Yes” answer to the question “IV/hep lock” (Fig. 6b) and the number of points at which a patient is considered a “high fall risk.”

DISCUSSION

Summary

The purpose of this quality improvement project was three-fold. The first objective was to assess the knowledge of nurses regarding mobility and its impact on falls. Second, the project sought to determine how effectively the use of brief, targeted educational session would increase nurses' knowledge of mobility and its effects on falls. The third part was supposed to measure the success of the intervention by assessing the mobilization and fall data, however this was not possible because the data collection system was not able to be created in time.

The survey included 11 questions which nursing staff answered with roughly the same percentages on the first and the second surveys. Many of these questions regarded opinions about alarms, hourly rounding, levels of assistance, mobilizing patients and fall prevention. Another six questions had minor improvements on the second survey. These questions regarded patients with IV's, how to answers questions on the Morse Fall Scale, and what age range most hospital falls occur during (>65 years old). Many of these were answers that the nurses should know and only one or two nurses answered the question differently between the pre- and post-intervention survey. Only two of these questions were addressed in the presentation.

Ten questions had greater differences in answers between the two surveys. All of these questions involved information acquired by researching falls and mobility. These questions were all addressed in the presentation because they provided compelling reasons why mobility is so

important for patients. It was not expected that nursing staff would know the answers to many these questions unless they had studied falls and patient mobilization. Prior to the presentation, many of these questions resulted in approximately 20-45% of nurses answering these correct. On the second survey, many of the correct answers were selected by 75-87% of nurses.

The educational intervention that was presented to the nursing staff was approximately five minutes long. This length was selected because nurses are busy and finding the time to sit down and focus on something other than their patients for even 5 minutes was sometimes impossible. This time frame also allowed for a number of high impact points to be made without the presentation being long and boring. Despite the brevity of the presentation, the surveys showed that a good degree of information was acquired. This indicates that these types of short presentations can be highly informative, while minimizing the amount of time that nurses are removed from attending to patients.

With the project relying solely on the responses to surveys, it was difficult to assess whether nurses modified their behavior in response to the knowledge they acquired from the presentation. It is possible that the nurses learned the information but did not put it into practice. This will remain unknown until a project assesses instances of mobility on these units.

Interpretations

The five-minute teaching and training session was quite successful at teaching nursing staff a number of statistics regarding patient falls as well as the importance of mobility and what types of mobility can help patients by preventing falls and getting them home sooner. Many of the statistics were used to bolster the case for using mobilization to reduce falls and to prove the need of increased patient mobilization. Additionally, the training looked to make instances of mobilization easier for nurses to accomplish by incorporating them into tasks that were already

being performed, thereby decreasing the number of times a member of staff needed to go into a patient room to assist them. When a nurse is in a patient room, they have already found the time to be with that patient, if only briefly, and this is the best time to accomplish as many tasks as possible.

While not all the topics that were covered in the educational presentation showed great improvement in the survey, all the topics that showed the most improvement were addressed in the presentation. Furthermore, some of the topics that were unable to be included in the presentation due to the need to keep it brief did not show much improvement. Some of these topics that showed little to no improvement were subjects of opinion, and changing opinions was not the primary focus of this teaching and training project.

The goal of this project was to address the topic of increasing mobility to decrease falls. The purpose of using the brief presentation was to minimize staff downtime/interruptions. The surveys allowed assessment of the success of the presentation at imparting knowledge on the staff which could then be used to encourage mobilization of patients.

While nursing staff was not able to participate in a quantitative study to assess changes in the provision of mobilization to patients, increasing mobilization first requires staff buy-in. To acquire buy-in, staff must believe in the need for change, and this is accomplished through explanation and data. This shows why increased mobilization is necessary and gets staff to accept the need for the project. The increased knowledge shown by the surveys indicates that nurses successfully acquired and retained information regarding falls in mobility, which is the first step in acquiring buy in.

The purpose of brief interventions is to provide as much information as possible in a short amount of time, thus increasing concentration and retention due to lack of fatigue and distraction which can occur during longer training sessions.

The nursing staff and Wildcat hospital learned agreed deal about these statistics of falls and how mobility plays into the occurrence of falls from the training presentation. The importance of the information and the presentation of facts showing that the units are lagging national standards likely helped staff pay attention and retain the information. Additionally, the short amount of time that it took allowed the nurses to focus on it and then move on to their other duties.

Falls and the risk of falling can have a physical and psychological impact on patients. Patient falls also have an impact on nursing staff who look after the patients. Nurses do not want their patients to fall and work to make sure that falls are minimized. Many methods of reducing falls have been incorporated into nursing care and best practices, and although falls are a “never event” they are impossible to prevent altogether. Despite this, arming nurses with new information and new methods of reducing and preventing falls is the best way to combat the problem, and brief presentations were shown to be an effective way of communicating these resources.

While the time these brief presentations take out of an individual nurse's schedule were minimized, the presenter is greatly impacted because they need to find times when each nurse is not occupied with their patients. Additionally, the presenter needs to create many brief presentations instead of one long presentation to cover many topics. This balance between the time it takes for one person to provide many presentations versus the need for nurses to leave the floor and the need to find staff to cover their positions while they are at longer training sessions

is something that hospitals will need to balance based on their individual situations. Despite this, the recognition that these brief sessions can successfully provide a lot of information in a short period of time allows hospitals to utilize this as an option if they choose to do so.

Rates of patient mobilization were expected to increase as a result of the training; however, these rates were reported to be high prior to the intervention. They remained high in the follow-up survey. The study relied on self-reported rates of mobilization because of the delay in the creation of the tracking program. The lack of a more objective method of quantifying patient mobilizations allowed for estimations and potentially exaggerated claims.

The brief lesson was expected to be successful at increasing nursing knowledge, however, the extent to which it accomplished this with the topics that were covered was surprising. Perhaps it should not have been so surprising because the information included in the presentation had to be pared down to just the most important and impactful facts, figures, goals, and tips in order to keep it short.

Limitations

A week prior to the start of this project the hospital split the medical surgical and coronary care units back into individual units after they had been combined for several months due to lack of staffing. After this split the units were not fully staffed, nor were they full of patients. Most of the time there were only two to three nurses on each unit, depending on the patient load and time of day, and frequently there was only one nursing assistant helping these nurses during the day and no LNAs at night.

In order to minimize the effects of the limited staffing and because the project was conceived when both units were combined, nurses from both units were used for this study.

Additionally, nurses from both shifts were used to make sure that all nurses received the same information, and that enough data was gathered to get significant findings.

Many participants did not want to be identified in the survey and did not put their name or an identifying number on their survey. This made it difficult to match surveys to an individual to get direct comparisons of their before and after results. Another confounding factor was that the nurses who were present during each of the weeks when the surveys were administered were different and therefore the number of nurses varied in addition to some of the individuals who participated. Despite this, many of the same nurses were present for all the weeks, so the fact that little individual data was able to be attributed to each person for comparison should not detract from the general trends of the data. Therefore, this is the information that was presented, and it shows that the teaching and training was effective.

Conclusions

Nurses have many competing demands and are not always able to keep up with the latest evidence-based practices. Brief training sessions can limit interruptions in care while providing updated information to nurses. These sessions can also serve to reinforce knowledge that nurses may not use frequently or that they may have forgotten.

Nurses were interested to learn the data behind some of the numbers that they hear about. When the only number that they see is the date of the last fall, that can be encouraging or discouraging, but adding in information that provides further context can allow the nurse to see that the trends which back up the need to focus on certain practices. With fall data increasing over the last several years, it was obviously important to look at it. Recognizing that it is two to three times the recommended level of hospitals nationwide shows nurses the magnitude of the problem and can help them realize the need for change.

Mobility affects many of the systems in the body and, therefore, lack of mobility affects these same systems. During the presentation, nurses were informed of these other factors that a lack of mobility influences. This provided reasons for the nurse to increase their focus on patient mobility. It also provided the nurse with information to give to patients as they encourage them to mobilize.

While this project serves as an initial look at gathering information about nursing knowledge and practice related to mobility and falls on the medical-surgical and coronary care units, it can be used as a model to learn about mobility and falls knowledge throughout the hospital. Additionally, the use of brief informational sessions could be implemented for other safety-related issues, especially CAUTI, pressure ulcers, and other nationally reported metrics.

With the information gathered from this project, the next step is to determine the practical application of the knowledge that the nurses gained. Once the Falls and Delirium Committee is able to acquire and implement the mobility tracking program, the goal is to see whether the information is being put to use and is leading to mobility rates above or near the recommended levels. It would also be possible to use the program to record instances of mobility before and after the training in new departments, which would allow for a qualitative analysis of the program

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Appendix A

| | | | | | | | | | | | | | | | |
|--|--|-----------------|-------|-----------------|----|-----------------|--|------------|--|-----------|--|---------|--|-----|--|
| Thank you for taking part in this quality improvement project and for participating in this survey. All answers will remain confidential. Your name or participant number is only being used to track changes by the end of this project. Individual data will only be shared or utilized, data will only be disseminated as comparisons or grouped data. Your participation in this project and the answers to the survey questions will not be used in any way for position, payroll, or employment decisions. Any questions that you would prefer not to answer may be skipped. | | | | | | | | | | | | | | | |
| Do you willingly agree to participate in this survey? | | | | | | | | | | | | | | | |
| Yes | | | | | No | | | | | | | | | | |
| Participant Name or Number: _____ | | | | | | | | | | | | | | | |
| What is your level of licensure? | | | | | | | | | | | | | | | |
| RN | | | LPN | | | LNA | | | | | | | | | |
| How many years have you been at your current level of licensure? | | | | | | | | | | | | | | | |
| 0 - 1 | | | 2 - 5 | | | 6 - 10 | | 11 - 15 | | 16 - 20 | | 21 - 25 | | 25+ | |
| Did you work at another level of licensure prior to your current level? | | | | | | | | | | | | | | | |
| Yes | | | | | No | | | | | | | | | | |
| • If yes, what was your previous level of licensure? | | | | | | | | | | | | | | | |
| RN | | | LPN | | | LNA | | | | | | | | | |
| • If yes, how many years did you work at that level of licensure? | | | | | | | | | | | | | | | |
| 0 - 1 | | | 2 - 5 | | | 6 - 10 | | 11 - 15 | | 16 - 20 | | 21 - 25 | | 25+ | |
| 1 To the best of your knowledge, what percentage of patients are prescribed bedrest? | | | | | | | | | | | | | | | |
| 0 - 5% | | 6 - 10% | | 11 - 15% | | 16 - 20% | | 21% + | | | | | | | |
| Broken Bone | | Joint | | Medication | | IV or other | | Difficulty | | breathing | | | | | |
| Replacement | | side effects | | lines/drain | | breathing | | Other: | | | | | | | |
| 2 What is the primary reason your patients are prescribed bedrest? | | | | | | | | | | | | | | | |
| Unsteady walk/lack of strength | | | | | | | | | | | | | | | |
| 3 What percentage of a 24-hour day do your patients generally spend in bed? | | | | | | | | | | | | | | | |
| < 50% | | 51 - 60% | | 61 - 70% | | 71 - 80% | | 81 - 90% | | 91 - 100% | | | | | |
| 4 What percentage of your patients generally need assistance to get out of bed? | | | | | | | | | | | | | | | |
| < 50% | | 51 - 60% | | 61 - 70% | | 71 - 80% | | 81 - 90% | | 91 - 100% | | | | | |
| 5 What is the average level of assistance that a patient needs to get out of bed? | | | | | | | | | | | | | | | |
| Independently | | 1-person assist | | 2-person assist | | 3-person assist | | | | | | | | | |
| Mobile | | Assist | | assist | | | | | | | | | | | |
| Patient | | Report from | | RN | | PT | | MD | | | | | | | |
| Description | | previous shift | | assessment | | assessment | | assessment | | | | | | | |
| 6 How do you determine how much assistance a patient requires? (Select all that apply) | | | | | | | | | | | | | | | |
| 7 Approximately what percentage of your patients have IV access? | | | | | | | | | | | | | | | |
| < 50% | | 51 - 60% | | 61 - 70% | | 71 - 80% | | 81 - 90% | | 91 - 100% | | | | | |
| 8 Approximately how many times a day do you encourage or assist EACH of your patients with their mobility? | | | | | | | | | | | | | | | |
| 1 | | 2 | | 3 | | 4 | | 5+ | | | | | | | |
| 9 How long does it take for the mobility of a hospitalized patient to start to decline if they are inactive? | | | | | | | | | | | | | | | |
| 8 hours | | 12 hours | | 24 hours | | 2 days | | 5 days | | | | | | | |
| 10 How long does it take for orthostatic tolerance (i.e. blood pressure not dropping significantly upon standing) to begin to decrease? | | | | | | | | | | | | | | | |
| 8 hours | | 12 hours | | 24 hours | | 2 days | | 5 days | | | | | | | |
| 11 What is the national average for percentage of patients who fall? | | | | | | | | | | | | | | | |
| 0.50% | | 1% | | 3% | | 5% | | 8% | | | | | | | |
| 12 Of the patients that fall, what is the approximate percentage of patients who sustain a serious injury affecting the length of their hospital stay? | | | | | | | | | | | | | | | |
| 5% | | 10% | | 20% | | 30% | | 40% | | | | | | | |
| 13 When it comes to falls, do you believe that this unit has _____ the national average. | | | | | | | | | | | | | | | |
| More than | | About equal to | | Less than | | | | | | | | | | | |
| 14 In what age range do most in-hospital falls occur? | | | | | | | | | | | | | | | |
| 18-25 | | 26-45 | | 46-65 | | 66+ | | | | | | | | | |

| | | | | | | |
|--|--|---|--|---|---------------------------------|--|
| 29 | | What is the one thing that you do that has the greatest impact on improving patient outcomes? | | | | |
| 28 | | Of everything that is done on the unit, what has the greatest impact on mobilizing patients? | | | | |
| 27 | | Of everything that is done on the unit, what do you believe has the greatest impact on preventing falls? | | | | |
| 23 | Do you believe that bed and chair alarms: | | • Help prevent falls? | | Yes | |
| | | | • Cause you to experience alarm fatigue? | | Yes | |
| | | | | | No | |
| | | | | | No | |
| 24 | | | | | No | |
| 25 | Do you participate in hourly rounding? | | | | No | |
| 26 | Do you believe that hourly rounding helps or would help prevent falls? | | | | Yes | |
| 22 | | | | | | |
| In your view, what is the greatest barrier to providing mobilization to patients? (select one) | | Nurse time/ competing demands | | Lack of assistance Personnel | | |
| | | Fall risk designation | | Patient strength Lines/drains Medications | | |
| 21 | | Lack of mobilization affects which of the following options? (Select all that apply) | | Venous thrombo-embolism | | |
| 20 | Which of the following options count as an instance of mobility? (Select all that apply) | | Walking to the restroom | | Standing and pivot to the chair | |
| | | | Walking in the hallway | | Sitting in the chair | |
| | | | | Sitting up & dangling legs on the side of the bed | | |
| | | | | Performing leg stretches in bed | | |
| | | | | Delirium | | |
| | | | | Falls | | |
| | | | | Strength | | |
| | | | | Ulcers | | |
| | | | | Pressure | | |
| | | | | CAUTI | | |
| | | | | Discharge | | |
| | | | | Re-admissions | | |
| | | | | Events | | |
| | | | | Ventilator-associated | | |
| | | | | events | | |
| | | | | Lack of assistive devices | | |
| | | | | Personnel | | |
| | | | | Lack of assistance | | |
| | | | | Nurse time/ competing demands | | |
| 19 | | On the Morse Fall Scale, how many points does it take to categorize a patient as "high risk"? | | 20 | 30 | |
| 18 | | How many points are added to the Morse Fall Scale by answering "yes" to the "TV/Heparin Locked" question? | | 5 | 10 | |
| 17 | | • If a patient has no IV | | Yes | No | |
| 16 | | • If a patient has an IV that is hooked up to a pump | | Yes | No | |
| 15 | | • If a patient has an IV that is saline locked | | Yes | No | |
| | | On the Morse Fall Scale, how do you answer the "TV/Heparin Locked" question for the following situations? | | | | |